HYDRO INTERNATIONAL INTERVIEWS ADMIRAL ALEXANDROS MARATOS, IHO PRESIDENT AND CHAIR S-44 WORKING GROU

Use and Exchange of Data

In the early days the discipline of hydrography was meant to contribute to safe shipping. The International Hydrographic Organisation (IHO) paid due attention to the quality of hydrographic surveying and nautical charts, resulting in Special Publication Nr. 44, IHO Standards for Hydrographic Surveys (S-44). Over recent decades we have seen an extension of hydrography into other activities and adjacent disciplines such as resource development, coastal zone management, environment monitoring and so on. We have also seen the emergence of new technologies, new equipment and, last but not least, an enormous increase in data-handling capacity and speed. What role is the IHO playing in these new developments and how does it influence S-44?

Please give our readers a brief description of your hydrographic career and how you achieved your present position.

My hydrographic career started in 1972 when I participated in the Xth International Hydrographic Conference (IHC). I had just returned to Greece following three years study in the USA where I had received a Master of Science Degree in Physical Oceanography from the Naval Postgraduate School in Monterey, California and a certificate in Hydrographic Engineering. I was assigned to the Hellenic Navy Hydrographic Service (HNHS), responsible for all the surveys and the production of charts. At the end of 1970s I was awarded a Master of Science Degree in Surveying Engineering from the Technical University in Athens. In 1993, after twenty years of work in different HNHS posts, I became Hydrographer of the Hellenic Navy, a post that I held until 2002. I have participated in many meetings of Hydrographic, Navigational, Charting, Oceanographic and Law of the Sea interest in IHO, IMO and IOC, and since 1972 in all the IHCs. During the XVIth IHC in 2002 IHO Member States elected me President of the Directing Committee of the International Hydrographic Bureau (IHB).

In the preface of S-44 it is mentioned that users of hydrographic data represent a much more diverse group than previously recognised. Is the IHO increasing its interest and involvement in aspects of hydrography relevant to those groups and, if so, to what extent?

The Standards for Hydrographic Surveys, promulgated as Special Publication 44 (S-44), is one of the most important standards produced by the IHO. Although the first three editions were theoretically similar, in that they applied to surveys conducted for the purpose of compiling nautical charts to be used for safe marine navigation, the data thus collected was always accepted and used by different interest groups. The current fourth edition of S-44 incorporated the developing 1990s technology in satellite positioning, wide-swath sonar and increased computer power. These Standards, together with the development of Geographic Information Systems (GIS), resulted in hydrographic survey data being used by a much more diverse group than previously.

Was there any input from sources other than national Nautical Charting Agencies in the preparation of S-44?

The IHO Working Group set up in 1992 in accordance with Decision No. 15 of the XIVth IHC to draft the 4th edition of S-44 was composed of representatives of IHO Member States who had a great deal of knowledge and experience in this subject area. Although private companies and other interested bodies did not directly participate in this group, their opinions on specific technical issues were taken into consideration from correspondence exchanged and minutes of meetings. Today industry is a valuable contributor to the technical work of the IHO, and it participates very actively in Technical Committees. Formal arrangements are in place for this co-operation.

After the first publication of S-44 in 1968, the 4th edition followed in 1998 looking not only at rapid developments in equipment, increased data-handling and better hydrographic hard and software but also at the mariner. Reducing safety margins at sea using electronic charts and GPS positioning demanded new surveys with higher standards of accuracy. Do you foresee a new edition of S-44 in the near future?

The IHB, having received a letter from the Australian Hydrographic Office, has informed IHO Member States of its intention to reconvene the S-44 Working Group in order to undertake a full review of the current edition and subsequent publication of a 5th Edition. This will take into account developments in technology and requirements for hydrographic data. We foresee the work starting early next year.

With publications like S-44 and S-57.3 (ECDIS data transfer format), the IHO has positioned itself as the leading authority in this field. Do you foresee that the IHO will also publish other standards such as:

- data exchange format for hydrographic survey data for Marine Information Systems?

- an Inland-ECDIS version of S-57? More and more ships are used nowadays both for inland and short-sea shipping.

The IHO will seek to maintain its position on the standardisation of hydrographic techniques and data exchange, co-operating with other international standardisation bodies such as ISO. The future S-57 edition 4 is being scoped to include product specifications for bathymetric data that will facilitate the exchange and use of data collected by hydrographic offices with users outside the hydrographic community such as coastal zone managers and environmental researchers.
The national authorities that are creating inland ENCs are not normally the national representatives to the IHO, but they have adopted S-52 and S57 standards to the greatest extent possible. Inland waters require additional objects not reflected in S-57 but which can be registered on the Open ECDIS Forum (OEF). The IHO liases with Inland ENC developers to encourage a harmonised evolution of inland and marine specifications; however, there is no plan at this time for the IHO to issue standards specifically related to inland ECDIS/ENC.

Although Acoustic Seabed Classification is not directly related to safety of navigation, activities in this field may need guidelines for the attainment of a consistent future worldwide dataset. Is the IHO looking into this matter, perhaps in relation to the UNCLOS technical publication?

Many Hydrographic Offices have specific programmes for collecting data and information for seabed classification using acoustics that may be used for applications not directly related to the safety of navigation. Data collected by multi-beam echo sounders and side-scan sonar during hydrographic surveys can also provide information for seabed classification. The IHO is not at this time developing guidelines or standardisation procedures for acoustic seabed classification.

Can you tell us something about the MOU that has been signed between the IHO and FIG Commission IV?

The IHO and the International Federation of Surveyors (FIG) have worked very closely for many years and have developed, together with the International Cartographic Association (ICA), the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IHO Publications M-5 and M-8). Professionally, these are very useful publications for academia, Hydrographic Offices (HO) and industry. In order to formalise and increase this co-operation, the two organisations signed an MOU providing the framework for continuing liaison on scientific, technical, professional, academic and educational issues.

ENC coverage of the world is still not realised. In his feature entitled â€˜The Future of ECDISâ€™ in the July/August edition of Hydro international Horst Hecht presented a rather slowly progressing situation. Do you expect the Hydrographic Offices to take up these challenges?

Certainly ENC coverage is not yet at the level that we would like. We have to accept, however, that following the approval of the IMO Performance Standards for ECDIS, the HOs in order to produce the appropriate ENCs required restructuring. This meant a change in their production lines and procedures, retraining of staff to handle a very difficult new product, reorientation of priorities, conduct of new surveys and, most importantly, the finding of new funds. This was for some HOs no easy task. It has resulted in a slow and somewhat confusing initial process. Notwithstanding, it has been recognised in the last year or so that the production of ENCs has started to accelerate. The IHO has put in place procedures to speed up the production of ENCs, to assist Member States and to monitor developments, and we believe that soon the worldwide coverage will improve significantly.

In April 2005 there will be another Extraordinary Conference in Monaco. What will be the main topics of that meeting?

In April 2002 the XVIth IHC tasked the IHO Strategic Planning Working Group (SPWG) to make a thorough review of the Basic Documents of the IHO and of its structure and procedures in order to determine whether a more flexible and efficient organisation could be constructed. The SPWG worked very actively for more than two years. The 3rd Extraordinary Conference in April 2005 in Monaco will examine, and hopefully approve, the recommendations of the SPWG for amendments to its convention and other related documents. It is a very important conference for the future of the IHO.

Is there anything that particularly bothers you in the hydrographic world, perhaps something that is difficult to propel forward in the right direction?

No. The IHO and its Member States do their best for the provision of hydrographic services in accordance with the new regulations of Chapter V of SOLAS for the safety of navigation and the protection of the marine environment. Industry is participating and supporting these activities. Co-operation with other international organisations is excellent. We are all moving forward in the right direction, recognising that we have to adapt to a completely new technical and financial environment.

What is the situation concerning â€˜World Hydrography Dayâ€™?

The XVIth IHC in April 2002 decided to establish an International Hydrographerâ€™s Day in order for the IHB and its Member States to give suitable publicity to their work at both national and international level. It was decided that the day should be entitled â€˜World Hydrography Dayâ€™ and celebrated on the 21st June each year, the anniversary of the IHBâ€™s establishment in 1921. The relevant resolution, approved by IHO Member States, has been brought to the attention of the appropriate body of the United Nations for recognition.

What are your views concerning closer co-operation between industry and the public sector hydrographic world in the areas of:

- chart production and distribution
- manufacturing of S-44 equipment
- royalties/copyrights?

I think a very good and productive co-operation already exists between industry, the IHO and its Member States in these areas. Industry participates in the technical committees of the organisation, providing a valuable contribution. The IHO has established a regular series of special meetings with industry to discuss issues of common interest in more detail. With the restructuring of the organisation the SPWG

has made specific proposals to strengthen and formalise this co-operation.

Is there anything else you might wish to say to our readers, the hydrographic world in general or to anyone specific?

One very important issue to bring to the attention of the hydrographic world is the need for capacity building, to develop or improve hydrographic capabilities in many coastal states throughout the world. The IHO has developed and initiated actions through support projects and programmes, technical visits to various states and detailed presentations to all coastal states. These IHO initiatives are supported very actively by IMO. The United Nations General Assembly with its Resolution A/58/240 (2003) welcomes the work of the IHO and invites IHO and IMO to continue their capacity-building efforts. Capacity Building is listed as an IHO Strategic Issue.

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